

**RIGHT-OF-WAY
PLAN OF DEVELOPMENT**

**DESERT SOUTHWEST
TRANSMISSION PROJECT**

**SEGMENT 1
KEIM-DSW Midpoint**

ROW GRANT CACA-44491-A

Prepared for:



**BUREAU OF LAND MANAGEMENT
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Figure 4 - Layout of the DSW Midpoint substation / switching station

1.0 OVERVIEW AND PURPOSE AND NEED

1.1 OVERVIEW

The Desert Southwest Transmission (DSWT) Project proposes to construct, operate, and maintain a new, transmission line, approximately 118-miles in length from a new substation / switching station (referred to as Keim) in the Blythe, California area to Southern California Edison's (SCE) existing Devers Substation located approximately 10 miles north of Palm Springs, California. The Proposed Project would operate at 500-kV and would provide increased transmission line capabilities from the new Keim substation / switching station to the existing Devers Substation to meet transmission requirements. The transmission line would be located adjacent to SCE's existing 500-kV Palo Verde – Devers (PVD1) transmission line and PVD2 right-of-way for the majority of the alignment. In addition, the Proposed Project would include a new substation/switching station (referred to as DSW Midpoint) located at the eastern intersection of the proposed line with the existing PVD1 line.

This Plan of Development (POD) has been prepared for the Palm Springs – South Coast Field Office of the Bureau of Land Management (BLM). This POD addresses construction activities, equipment, access, right-of-way (ROW) clearing, operation, and maintenance of the portion of the DSWT Project between the Keim substation/switching station and DSW Midpoint Substation located on BLM administered lands. This is the portion of the DSWT Project that is subject to Right-of-Way (ROW) Grant CACA-44491-A.

This portion of the DSWT Project includes one double-circuit 500 kV line between the Keim substation/switching station and the DSW Midpoint Substation. The portion of the line located on BLM administered lands begins in the northeast corner of Section 7, Township 7 South, Range 22 East near the intersection of Seeley Avenue and Rannells Boulevard [point of inflection (PI)].

The total length of the line to the DSW Midpoint Substation will be approximately 8.5 miles with about 5.5 miles of it located on BLM administered lands. This line traverses BLM administered lands in an east-west alignment from the PI in Section 7 to the DSW Midpoint in Section 6, Township 7 South, Range 21 East. **Figure 1** shows the location of the double-circuit 500 kV line.

The new line would be located on private lands from the new Keim substation /switching station to the PI. It would be constructed as a double-circuit 500kV line on single steel poles. One of the circuits on the line would have a local interconnection with the DSW Midpoint. The second circuit would extend to the Devers substation with no local interconnection. The two circuits may be built at the same time, or the second circuit may be built at a later date.

All BLM administered lands crossed by the line and discussed in this POD are classified as Moderate Use by the BLM. Land use on these BLM lands in the project is primarily livestock grazing.

1.2 PURPOSE AND NEED

The DSWT Project will operate at 500-kV and will provide increased transmission line capabilities from the Blythe area to other parts of the region. At the Midpoint Substation, the line would provide an interconnection with the segment of the DSWT Project between DSW Midpoint and the Devers Substation as well as the existing PVD1 500 kV transmission line and the proposed PVD II 500 kV transmission line. These interconnections will help meet existing and future transmission system requirements. More detailed information on the purpose and need can be found in the DSWTP Final EIS/EIR (BLM 2005).

2.0 RIGHT-OF-WAY LOCATION

2.1 ROW DESCRIPTION

Figure 1 shows the location of the Keim – Midpoint transmission line. On BLM lands, the permanent and temporary ROW for the transmission line will be 280 feet wide and will be located entirely within the BLM Designated Utility Corridor K as established by the California Desert Conservation Area Plan, as amended (BLM 1999). The term of the ROW for all project features would be for 50 years and the project will operate year-round. All areas needed during construction for equipment storage and material lay-down would be located on private lands.

The ROW for the Keim – DSW Midpoint line on BLM lands is 280 feet wide and is approximately 5.5 miles long or 29,040 feet. This will total approximately 186.7 acres for the transmission ROW on BLM land for this portion of the line. The DSW Midpoint Substation will also be located on BLM land in Section 6 of T7S, R21E. The ROW for the DSW Midpoint Substation would cover approximately 50 acres. Total ROW on BLM lands for the Keim – DSW Midpoint portion of the DSWT Project would be approximately 236.7 acres.

2.2 LEGAL DESCRIPTION KEIM – DSW MIDPOINT SUBSTATION

The legal description of the portion of the Keim–DSW Midpoint segment located on BLM land is as follows:

Township 7 South, Range 22 East:	Section 7 - N1/2 N1/2
Township 7 South, Range 21 East:	Section 12 - N1/2 NW1/4
	Section 11 – N1/2 N1/2
	Section 10 - N1/2 N1/2
	Section 9 - N1/2 NE1/4
	Section 4 – S1/2 S1/2
	Section 5 - S1/2 S1/2
	Section 6 – S1/2 SE1/4

The legal description of the DSW Midpoint Substation located on BLM land is as follows:

Township 7 South, Range 21 East:	Section 6 – SE1/4
	(50 acres in the SESE corner)

2.3 SITE-SPECIFIC ENGINEERING SURVEYS

Site-specific engineering surveys will be conducted just prior to construction as part of final design and engineering. Preliminary engineering has been completed and the results are discussed in the following section.

2.4 MAPS AND DRAWINGS

Maps and drawings have been completed for the project that details the design and location of the transmission line. These are presented in the following sections.

3.0 FACILITY DESIGN FACTORS

There are several major components of the DSWT Project. These components include transmission line facilities, substation facilities, and communications facilities. The following information describes these facilities in greater detail. Typical design characteristics are listed in **Table 3-1**. More detail on project design is contained in the following sections. Final design characteristics will be determined in the detailed design phase of the project.

Table 3-1 Typical Design Characteristics	
Transmission Line Facilities	
Line length	Approximately 8.5 miles (approximately 5.5 on BLM)
Type of Structure	Single Pole Steel (galvanized)
Structure height	100 to 180 feet
Span length	1,400 feet average
Number of structures per mile	Approximately 4 - 5
Right-of-way width	280 feet on BLM
Access roads	Will be located within ROW for line to DSW Midpoint
Voltage	500,000
Circuit configuration	Double circuit (three phase per circuit) 500kV
Conductor size	Two 1.5 to 2-inch ACSR conductors per phase
Minimum ground clearance of conductor	30 feet at 60 °F and 27 feet at the maximum operating temperature.
Pole foundation depth/diameter	22 feet/4 to 10 feet
Substation Facilities	
New DSW Midpoint Substation ROW	Approximately 50 acres permanent disturbance
Communications Facilities	
Systems	Digital Radio System, microwave, VHF/UHF radio, and Fiber Optic Ground Wire (OPGW)
Functions	Communications for fault detection, line protection, SCADA, and two-way voice communication.

3.1 TRANSMISSION FACILITIES

The transmission line would be designed for two 500kV three-phase (two conductors per phase) circuits with two shield wires. Galvanized steel pole structures are proposed for the project. The span length between structures will average 1,400 feet.

3.1.1 TYPE OF STRUCTURES

The Proposed Project would be built at 500-kV and would use steel pole structures along the entire route. All structures would be double-circuit structures. All pole structures would be designed to withstand wind speeds of 108 miles per hour (mph). Meteorological studies would be referenced and/or updated to evaluate and confirm maximum wind loading criteria to be used for the final design of the structures.

An illustration of the 500kV steel pole structure that will be used for this project, with dimensions, is provided in **Figure 2**. Structure heights would be approximately 130 feet but could vary depending on terrain and associated span lengths. The average span length would be approximately 1,400 feet, resulting in about 4 towers per mile of line. Each structure would be supported by bolting to caisson foundations approximately 22 feet deep and 4 to 10 feet in diameter.

The locations of proposed structures are shown on the large scale drawings included at the end of this POD.

3.1.2 PULL SITES

The pull sites are the locations where equipment is set up for pulling the conductors and static wires. The proposed locations of each pull site are depicted on the on the large scale drawings included at the end of this POD.

Construction equipment will be set up at both sides of a pull site at approximately a 3:1 ratio from the structure. Structures will be approximately 130 feet in height; therefore, equipment will normally be about 390 feet from the structure. Proposed pull sites, or modified pull site locations, in any areas previously unsurveyed will be subject to a Cultural resources Class III inventory survey prior to ground disturbance.

3.1.3 STAGING AREAS/EQUIPMENT STORAGE AREAS

Any needed staging areas or construction material storage areas needed for this portion of the DSWT Project will be located on private land.

3.1.4 ACCESS (PERMANENT AND TEMPORARY)

This section describes how access will be provided to the transmission line located on BLM administered lands.

Access to the portions of this line on BLM land will be provided both temporarily and permanently by a new access road that would be constructed within the 280-foot ROW. This road would be approximately 15 feet wide and would be unsurfaced. Roads will be constructed in accordance with Bureau of Land Management standards. The location of this road is shown on the large scale drawings included at the end of this POD.

3.1.5 INDUCED CURRENT MITIGATION

Buried water and gas pipelines collocated with overhead electrical transmission lines are subject to the influence of electromagnetic fields that may result in safety concerns for people making contact with the pipeline, including pipeline personnel, as well as long-term corrosion damage to the pipeline and to any existing corrosion protection equipment.

Determining proper mitigation for placing electrical transmission lines over pipelines requires a detailed site specific analysis involving measuring the background inductive electrical currents found within the pipeline, the effect of any existing pipeline corrosion protection, and any potential voltages transferred through the earth in location of the electrical conductor and towers. Factors such as soil resistivity, soil layering, length and proximity of pipeline to the transmission line, fault current levels, transmission line static wire type, transmission line structure as well as the effectiveness of pipeline grounding and coating need to be fully analyzed in order to determine proper mitigation requirements.

Coordination with each utility that may be crossed will be conducted to ensure that the proposed mitigation is sufficient. Crossing permits will be obtained from these entities as needed.

3.2 SUBSTATION FACILITIES

This portion of the project includes the development of the new DSW Midpoint substation/switching station at the intersection of the proposed transmission line and the existing PVD1 line. This new substation/switching station would require approximately 50 acres that would be permanently disturbed. **Figure 4** shows the layout of the DSW Midpoint substation / switching station.

4.0 GOVERNMENT AGENCIES INVOLVED

This portion of the DSWT Project is on both public land administered by the BLM, Palm Springs – South Coast Field Office and private land. Federal, state, and local agencies were consulted during preparation of the EIS/EIR for the project. In addition to the BLM, those agencies with jurisdiction over this portion of the Project (subject to ROW Grant CACA-44491-A) will be contacted to obtain necessary permits and approvals. These agencies are identified in **Table 4-1**.

Table 4-1 GOVERNMENT AGENCIES INVOLVED		
Agency/Department	Permit/Approval	Action Associated With or Required For
Federal Agencies		
U.S. Fish and Wildlife Service	Biological Assessment, Section 7 Consultation, Biological Opinion (Endangered Species Act [ESA] 16 USC 1531-1544)	Activity where there may be an effect on federally-listed endangered/threatened/proposed species (applies to projects with federal U.S. Fish and Wildlife Service involvement).
	Fish and Wildlife Coordination Act	Provide comments to prevent loss of and damage to wildlife resources.
Army Corps of Engineers	Nationwide Section 404 Permit (CWA, 33 USC 1341)	Discharge of dredge/fill into Waters of the United States, including wetlands. Preconstruction notification will be made with the ACOE.
Advisory Council on Historic Preservation	Section 106 Consultation, National Historic Preservation Act (NHPA)	Opportunity to comment if project may affect cultural resources listed or eligible for listing on National Register of Historic Places.
State Agencies		
State Water Resources Control Board, Regional Water Quality Control Board	General Construction Activity Stormwater Permit	Stormwater discharges associated with construction activity.
State Department of Fish and Game	California ESA	Activity where a listed candidate, threatened, or endangered species under California ESA may be present in the project area and a state agency is acting as lead agency for CEQA compliance. Consider issuance of a Section 2081 incidental take permit for state-only listed species and a Section 2081.1 consistency determination for effects on species that are both state and federally listed.
	California Native Plant Protection Act	Review of mitigation agreement and mitigation plan for plants listed as rare.
California State Historic Preservation Office	Section 106 Consultation, NHPA	Consult with BLM, project applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.

5.0 CONSTRUCTION METHODS

This section describes the construction process that will be employed to develop the project. Construction is anticipated to proceed in a relatively sequential manner along the length of the line. Any significant modifications to the proposed construction techniques described in this section that arise during construction on BLM lands will be approved by the BLM prior to implementation to determine potential impacts and appropriate mitigation measures. Installation of the transmission line will generally be performed using the proposed construction techniques identified below and discussed in the following subsections.

- Transmission Line Surveying
- Access Road Construction
- Structure Site Clearing, Foundation Excavation, and Foundation Installation
- Structure Assembly and Erection
- Conductor Installation
- Cleanup
- Hazardous Materials Within Corridor
- Landscape Rehabilitation
- Project Contacts

The primary construction activities and areas of potential impact will be confined to access roads, spur roads, structure locations, and pull sites. The locations of these project components are depicted on the large scale drawings included at the end of the POD.

5.1 TRANSMISSION LINE SURVEYING

Prior to construction, preconstruction survey work would be conducted locating the centerline, structure center hubs, right-of-way boundaries, and structure access roads. After all of these features have been staked in the field, intensive field surveys would be conducted prior to construction to determine the presence of cultural resources and special-status species within potentially affected areas. Prior to the initiation of any preconstruction surveys, the necessary survey permits for federal and state land and rights-of-entry to privately owned land would be obtained.

No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate survey or construction limits. In addition, sensitive areas will be flagged so they can be avoided or appropriately dealt with during construction as described below.

5.2 ACCESS ROAD CONSTRUCTION

The large scale map set included at the end of this POD identifies where new access roads and spur roads to structure sites will be required. In cases where new access roads or improvements are proposed, the final construction drawings will identify the following: length of road improvement, fences, gates, and drainage improvements. Road standards will also be addressed specifically in the final engineering design.

All roads would be constructed in accordance with project requirements for transmission line access roads. Wherever possible, new spur roads would be built at right angles to existing maintenance roads. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line. Culverts or other drainage structures would be installed only as necessary to allow passage of heavy equipment across drainages. In addition, road construction would include dust and erosion control measures. Use of water trucks would be required in areas where the application of road surface sealants would be considered unsuitable for the local wildlife habitat.

The construction contractor selected to build this project will be required to submit a specific Access Road Use Plan. The plan would address use of the existing road network to transport workers, materials, and heavy equipment to the staging areas, structure locations, concrete batch plant sites, and material storage locations. The planned use of existing roads would be evaluated to determine the best approach to mitigate potential impacts to the roads and adjacent construction areas. The installation of culverts and other road improvement amenities would be reviewed and addressed on a site-by-site basis.

5.2.1 FENCES, GATES, CATTLEGUARDS

Fences and gates will be placed or replaced as required. If cattleguards, fences, and gates are damaged, they will be repaired or replaced to their original condition as required by the BLM. Temporary gates will be installed only with the permission of the BLM.

5.3 STRUCTURE SITE CLEARING, FOUNDATION EXCAVATION, AND FOUNDATION INSTALLATION

Vegetation clearing and ground disturbance will be required at each structure site for excavation of holes and pouring of concrete foundations. Temporary disturbance will be approximately 100 feet by 250 feet at pole locations shown on the detailed drawings at the end of the POD. Vegetation in this temporary work area will be trampled, but not cleared.

Footer excavations will be made using mechanized equipment, with poles requiring one 4 to 10 foot diameter hole. Structure foundation excavations will be made with power

drilling equipment. A vehicle-mounted power auger or backhoe will be used to excavate the structure foundations. In rocky areas, the foundation holes would be excavated by drilling. Although not expected, in some instances blasting could be necessary because of the specific geologic conditions. In the unlikely event that blasting is necessary, conventional or plastic explosives would be used. Safeguards (e.g., blasting mats) would be employed when adjacent areas require protection.

Footings would be installed by placing reinforced steel and transmission structure steel components into each foundation hole, positioning the steel components, and encasing them in concrete. Excess spoil material would be used for fill where suitable. The foundation excavation and installation activities would require access to the site by a power auger or drill, a crane, material trucks, and ready-mix trucks.

Water will be used for soil compaction and dust abatement at each structure site and along access roads. Water for footer compaction and dust abatement will be obtained from agricultural or municipal water sources and trucked to the construction area.

5.4 STRUCTURE ASSEMBLY AND ERECTION

Structural steel components and associated hardware would be shipped to each structure site by truck. Steel structure sections would be delivered to pole locations where they would be fastened together to form a complete structure and hoisted into place by a large crane. At each structure site, leveled areas would be needed to facilitate the safe operation of equipment, such as construction cranes. The leveled area required for the location and safe operation of large cranes would be approximately 30 by 40 feet. At each structure site, a work area of approximately 25,000 feet square would be required for the structure footing location, structure assembly, and the necessary crane maneuvers. The work area would be cleared of vegetation only to the extent necessary. Concrete for use in constructing foundations would be dispensed from concrete mixer trucks. After line construction, all pads would be restored to natural contours to the greatest extent possible and revegetated where required.

5.5 CONDUCTOR INSTALLATION

After the structures are erected, insulators, hardware, and stringing sheaves would be delivered to each structure site. The structures would be rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

For public protection during wire installation, guard structures could be erected adjacent to roads, existing power-lines, and other obstacles. Guard structures would consist of H-framed wood poles placed on either side of an obstacle. These structures would prevent ground wire, conductor, or equipment from falling on an obstacle, and would be removed following the completion of conductor installation. Equipment for erecting guard structures would include augers, line trucks, pole trailers, and small cranes. Guard

structures may not be required for small roads or other areas where suitable safety measures such as barriers, flagmen, or other traffic controls could be used.

Pilot lines would be pulled (strung) from structure to structure and threaded through the stringing sheaves at each structure. Following pilot lines, a larger diameter, stronger line would be attached to conductors to pull them onto structures. This process would be repeated until the ground wire or conductor is pulled through all sheaves.

The shield wire (and/or OPGW) and conductors would be strung using powered pulling equipment at one end and powered braking or equipment tensioning at the other end of each conductor stringing segment. Sites for tensioning equipment and pulling equipment would be approximately 2 miles apart. This distance could be essentially doubled where it is prudent to do so by pulling in two sets of conductors back to back.

Each tensioning site would be approximately 250 feet by 600 feet. Tensioners, line trucks, wire trailers, and tractors needed for stringing and anchoring the ground wire or conductor would be necessary at each tensioning site. The tensioner, in concert with the puller, would maintain tension on the shield wires or conductors while they are pulled through the structures. The pulling site would require approximately half the area of the tension site. A puller, line trucks, and tractors needed for pulling and temporarily anchoring the shield wires, OPGW, and conductor would be necessary at each pulling site. There will be no blading at pull sites if the terrain is sufficiently level. Pull site locations are shown on the detailed drawings at the end of the POD.

5.6 CLEANUP

Construction sites and access roads will be kept in an orderly condition throughout the construction period by using approved enclosed refuse containers. Refuse and trash will be removed from the sites and disposed of in an approved manner. No open burning of construction trash will occur without agency approval.

5.7 HAZARDOUS MATERIALS WITHIN CORRIDOR

Petroleum products such as gasoline, diesel fuel, crankcase oil, lubricants, and cleaning solvents will be present within the transmission line corridor during construction. These products will be used to fuel, lubricate, and clean vehicles and equipment, and will be transported in containerized trucks or in other approved containers. When not in use, hazardous materials will be properly stored to prevent drainage or accidents. These materials will not be drained onto the ground or into drainage areas.

Totally enclosed containment shall be provided for all hazardous waste. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, will be removed to a disposal facility authorized to accept such materials.

A health and safety plan will be developed by the construction contractor. In the event of a hazardous materials spill, notification and clean-up will be undertaken by construction contractors' certified personnel in an expeditious manner.

5.8 LANDSCAPE REHABILITATION

Disturbance areas where vegetation was removed during construction activities that are no longer needed for future operation and maintenance will be restored in a manner to encourage natural revegetation. Temporary access roads or trails will be blocked if requested by the BLM to prevent public access. Where needed, these new roads will be encouraged to naturally revegetate, without recontouring, to allow future access for transmission line maintenance activities.

Concerns about the prevention of weedy and exotic species invasion will be addressed throughout construction. All heavy equipment utilized during construction will be washed prior to departure from the equipment storage facility. This will ensure that weed seed from a different region is not transported into the ROW. Equipment will have accumulations of mud 'knocked off' instead. This method promotes containment of weed seeds on the work site.

5.9 PROJECT CONTACTS

During construction, representatives of the DSWT Project and the construction contractor will coordinate closely with the BLM. Points of contact for each are as follows:

Bureau of Land Management

Authorized Officer: _____

DSWT Project:

Authorized Representative: Mr. Bob Mooney
208-890-0369

6.0 RESOURCE VALUES AND ENVIRONMENTAL CONCERNS

6.1 STANDARD OPERATING PROCEDURES AND MITIGATION MEASURES

The Mitigation Monitoring and Reporting Plan that was part of the Final EIS/EIR identified 160 mitigation measures that could be needed to lessen potential environmental impacts over the entire 118-mile area crossed by the DSWT Project. The following table identifies 111 of those mitigation measures that could apply to the Keim – DSW Midpoint segment that is the subject of this POD and that could be implemented to avoid or reduce resource impacts.

Some of these mitigation measures would be applied to specific areas where needed (where a specific type of resource exists). In these cases, the locations where these geographically-specific measures would be applied will be shown on the detailed drawings prepared prior to construction.

MITIGATION MEASURES Keim – DSW Midpoint Segment	
BIOLOGICAL RESOURCES	
Vegetation	
<i>Adverse effects on vegetation disturbance during construction would be minimized as practicable.</i>	
1)	During construction, travel would be restricted to the existing access roads and spur roads to the shortest feasible path to minimize impacts to vegetation communities.
2)	Existing access roads would be used to the maximum extent allowable and construction of new access and spur roads would be limited to the extent practicable.
3)	Vegetation removal would be minimized wherever possible and would be restricted in sensitive resource areas (e.g., areas with erodible soils).
4)	To the extent possible, grading and grubbing of vegetative cover shall be avoided on all spur roads and tower pad locations, and all vehicular traffic shall drive within field designated overland routes.
<i>The following prescriptions would prevent the spread of invasive weeds into previously uninfested areas in the designated construction right-of-way.</i>	
1)	Prior to initiating construction activities, all clearing and grading equipment would have the tires, axels, frame, running boards, under carriages, and soil holding areas washed and cleaned at a designated station to prevent noxious weed species transport to unaffected areas.
2)	A qualified weed specialist, range ecologist, or arid botanist would survey the tower pad locations, stringing and tensioning sites, new spur road sites, existing access roads that require improvements, and construction material staging areas prior to construction to identify any listed noxious species infestations. If an infestation is identified, the infestation area would be clearly delineated and staked prior to project construction and an appropriate buffer would be maintained. The lead environmental compliance monitor would ensure that construction-related activities would be prohibited within these designated exclusion zone(s). Where avoidance is infeasible, please refer to measures listed below.

<ol style="list-style-type: none"> 3) Before beginning construction activities in unavoidable infestation exclusion zones, these infestations would be controlled through acceptable mechanical (e.g., topsoil excavation and removal), cultural, or herbicide applications. 4) If direct control methods or removal of noxious weed infestations in construction disturbance areas is not feasible, the noxious plants may be cut and disposed of (e.g., burned at an acceptable and permitted location) or destroyed in a manner that is acceptable to the BLM. 5) The lead environmental construction monitor would educate construction personnel on noxious weed identification and the legal requirement of controlling and preventing the spread of noxious weed infestations.
Wildlife
<i>Compensate for habitat modifications per coordination with responsible resource agencies.</i>
<ol style="list-style-type: none"> 1) Project mitigation would include habitat purchase and in-lieu fees provided to compensate for temporary and permanent loss of habitat for both common wildlife and special-status species. Mitigation ratios for high-quality habitat purchase would be developed by the responsible agencies to compensate for the appropriate acreage disturbed from the project construction and operation.
<i>Construction activities and vehicle operation would be conducted to minimize potential disturbance of wildlife.</i>
<ol style="list-style-type: none"> 1) Limit speed of vehicles along the right-of-way and access roads to 15 to 20 mph in sensitive habitats. In addition, construction and maintenance employees would also be advised that care should be exercised when commuting to and from the project area to reduce road mortality. 2) Prohibit vehicle operation off the right-of-way by construction workers, including construction work and employee access, except where specified by the BLM or where roads already exist. 3) Stockpiling of equipment and parking of vehicles would be undertaken to the maximum extent allowable on previously disturbed areas proximate to the construction zone. 4) Construction activities would attempt to utilize the minimum number and types of vehicles and equipment necessary on the right-of-way.
<i>Design incorporation would minimize electrocution and collision potential.</i>
<ol style="list-style-type: none"> 1) Current construction practices for major transmission systems now space conductors and ground wires sufficiently apart so that raptors, including bald eagles, the largest of the raptors, cannot contact two conductors or one conductor and a ground wire to cause electrocution (APLIC 1996). In addition, the conductor spacing for the 500-kV transmission lines would be a minimum of 35 feet significantly greater than the minimum distance that could result in simultaneous wing contact (e.g., the APLIC report shows that the wingspan of a bald eagle is from 6 feet 6 inches to 7 feet 6 inches; perched, a large raptors wing would reach out 39 inches to 51 inches from either side of the body).
<i>Conduct pre-construction surveys prior to project initiation</i>
<ol style="list-style-type: none"> 1) Prior to project construction activities, it would be determined whether any tree or shrub removal or clearing shall occur during the passerine and raptor nesting season (e.g., April 1 to August 31). If tree or shrub removals occur during the nesting season, a qualified biologist would conduct a focused survey for nests during the nesting season to identify any active nests in the Proposed Project disturbance areas. The survey shall be conducted no less than 14 days and no more than 30 days prior to the beginning of construction and subsequent tree or shrub removal. If nesting passerine or raptors are found during the focused survey, no

<p>construction or tree removal would occur within 500 feet of an active nest until the young have fledged (as determined by a qualified biologist). If nest trees are unavoidable, they would be removed only during the non-breeding season. If construction activities do not require any tree or shrub removal or clearing during the nesting season, no further mitigation would be necessary.</p>
<p><i>Special Status Plant Species</i></p>
<p><i>Survey and avoid and/or salvage special-status species plant in areas to be disturbed by project activities.</i></p>
<ol style="list-style-type: none"> 1) A comprehensive focused survey designed with appropriate agency consultation would be conducted prior to construction and project-related activities to identify any new special-status plant populations on proposed tower pads, spur roads, pulling and splicing sites, staging areas, or any other construction sites that would be temporarily or permanently disturbed. 2) If special-status plant(s) are identified during the pre-construction surveys, vegetation communities and plant locations would be delineated on aerial photography and incorporated into the construction plan. In addition, exclusion zones would be marked around identified populations prior to construction. These designated exclusion zones would be marked in the field with stakes and flagging, and all construction-related activities would be prohibited within these zones, including vehicle operation, material and equipment storage, and other surface-disturbing activities. Where feasible, minor realignments would be implemented to avoid those populations within the designated tower pad and spur road locations. 3) Where avoidance is infeasible, a Plant Salvage Plan would be developed and submitted for approval from the appropriate responsible agencies. It is envisioned that the identified special-status plants would be hand salvaged and planted in an adjacent, undisturbed site.
<p><i>Implement measures to decrease the likelihood of incidental take of desert tortoise and habitat mitigation.</i></p>
<ol style="list-style-type: none"> 1) Category III desert tortoise habitat impacts would be compensated at ratios calculated using the formulas detailed in the USFWS Biological Opinion for the CDCA Plan. 2) The Applicant will implement a Worker Environmental Awareness Program, including training, monitoring, and reporting. Contractors, their employees, and other personnel working in the area will receive training on special-status species potentially occurring in the Project area, with special emphasis on the desert tortoise. The program will develop brochures or other material describing this information and will be distributed to all employees and any other contractor that may enter the Project site. Information to be provided in the training will include the following: <ol style="list-style-type: none"> a) The locations and types of sensitive biological resources on the Project site and adjacent areas. b) Information regarding species and habitat identification and occurrence. c) The natural history and endangerment factors for the desert tortoise. d) The reasons for protecting these resources and the requirements of the federal and state Endangered Species Acts. e) A description of the temporary and permanent measures being taken at the Project site to protect habitat and therefore avoid harming sensitive resources. f) The responsibilities of workers, including reporting procedures if species are located during construction activities. g) Appropriate protocols for dealing with protected species when encountered in and

<p>around the linear facility corridors, and during vehicle trips to/from the work site.</p> <ul style="list-style-type: none"> h) Designated areas for driving and parking of vehicles. i) Avoidance of areas around sensitive resources. j) Reporting sightings of threatened and endangered species. k) Avoidance of approaching and feeding wildlife. l) Avoidance of pets on the work site. <p>Each participant in the on-site Worker Environmental Awareness Program will sign a statement declaring that the individual understands and will abide by the guidelines set forth in the program materials. The person administering the program will also sign each statement. New workers will receive training within 15 days of their first day of employment.</p> <ul style="list-style-type: none"> 3) Only biologists with authorized USFWS permits shall handle desert tortoises. All handling of desert tortoises and their eggs, relocation of desert tortoises, and excavation of burrows shall be conducted by an authorized biologist in accordance with the USFWS and/or BLM recommended protocol. 4) Only biologist(s) approved or authorized by the USFWS shall conduct pre-project clearance surveys for the desert tortoise or monitor project activities for compliance with any proposed protective measure issues in the Section 7 consultation. BLM shall submit the name(s) and credentials of the proposed project biologist(s) to the USFWS for review and approval at least 30 days prior to the onset of construction activities. No activities shall begin until a biologist(s) is approved by the USFWS. <p>Appendix 2 details specific monitoring and protection measures that would be implemented to minimize impacts to the desert tortoise during transmission line construction activities.</p>
<p><i>Implement measures to decrease raven populations.</i></p> <ul style="list-style-type: none"> 1) The BLM would participate in regional passive and active raven depredation control programs in or within 1 mile of desert tortoise habitat. 2) Design and operation features would be consistent with adopted land use plans. 3) All litter and debris shall be promptly removed and deposited in permitted landfills by the construction contractor.
<p><i>Implement measures to decrease the likelihood of incidental take of flat-tailed horned lizard and Colorado Desert fringe-toed lizard.</i></p> <ul style="list-style-type: none"> 1) Implement a worker education program. 2) Flag or otherwise mark the outer boundaries of the project construction areas where necessary to define the limit of work activities. 3) Minimize habitat degradation within sand dunes by limiting travel to existing roads and surface disturbance to previously disturbed areas. 4) A monitor would be required to remove flat-tailed horned or Colorado Desert fringe-toed lizards in the Keim – DSW Midpoint segment of the right-of-way. Pulling, staging, and equipment storage sites in this segment, where construction activities would be intense and extended over time, may be temporarily fenced with a lizard-proof fence (e.g., 0.5 inch mesh, buried), surveyed prior to construction and cleared of all flat-tailed horned and Colorado Desert fringe-toed lizards. If unfenced (e.g., tower pads), construction activities may require monitoring to assist in removal of all flat-tailed horned and Colorado Desert fringe-toed lizards. Specific removal and translocation criteria are defined in Foreman (1997). The surveying biologist must be familiar with flat-tailed horned and Colorado Desert fringe-toed

<p>lizard behavior and habitat associations and approved by CDFG.</p> <p>5) Additionally, where flat-tailed horned and Colorado Desert fringe-toed lizards are found, compensation may be required for acreage that is disturbed or lost due to project construction or operation. If lack of occupation can be reasonably demonstrated, no compensation is required and mitigation measures described above can be decreased accordingly.</p>
<p><i>Waters of the U.S.</i></p>
<p><i>The following actions and all permit conditions issued within the COE Nationwide Permit would be implemented by DSW's construction contractor. BLM's Compliance Inspector and DSW's Environmental Compliance Monitor(s) would routinely inspect construction activities to verify that these measures and permit conditions have been implemented.</i></p>
<ol style="list-style-type: none"> 1) Upon completion of the final engineering design including tower structure placement via surveying, a "waters of the U.S." survey using the 1987 COE manual would be completed and submitted to the COE. In addition, notification materials will be submitted to the CDFG and, if necessary, an investigation of the project site by the CDFG will determine if the project may impact fish or wildlife resources. If construction activities result in the placement of fill material or divert, obstruct, or change the natural flow of the bed or channel, a Nationwide 12 Permit and/or a Section 1602 Streambed Alteration Agreement would likely be required prior to project construction activities. 2) The Proposed Alternative would be designed consistent with COE and CDFG guidance to minimize impacts to floodplains and jurisdictional waters of the U.S., and construction of the transmission line would incorporate best management practices, include erosion control measures, and comply with all COE, CDFG, and State water quality permit terms and conditions to protect water quality in the project area. 3) Spur roads and pad placement through wide washes would be minimized during the design engineering to the maximum extent allowable. Where such facilities are infeasible outside identified washes, habitat disturbance and tree removal would be minimized. These identified washes would be flagged prior to disturbance by a qualified resource specialist, and all construction activities would take place inside designated areas in order to ensure minimum habitat disturbance. 4) "Waters of the U.S." and streambeds would be restored in a manner that encourages vegetation to reestablish to its pre-construction condition and reduces the effects of erosion on the drainage system. 5) Additional compensatory, restoration, or avoidance mitigation measures may be identified by regulatory agencies (e.g., COE, CDFG) as part of the permitting process and would be implemented into this POD.
<p><i>CULTURAL RESOURCES</i></p>
<p><i>Preparation of a Treatment Plan for avoiding and mitigating unavoidable direct adverse effects on resources eligible for National Register listing will be prepared and implemented.</i></p>
<p>Treatment of cultural resources will follow the procedures established by the ACHP for compliance with Section 106 of the NHPA and also for compliance with CEQA. A Treatment Plan will be prepared to identify methods of avoiding or mitigating effects. Prior to that, a Class III pedestrian inventory (methodology provided in Appendix 3) will be undertaken of all portions that have not been previously surveyed or identified by BLM as requiring inventory to identify properties that are eligible for the NRHP (and <i>de facto</i>, the CRHR). Those sites not already evaluated for NRHP eligibility will be evaluated based on surface remains, subsurface testing, archival and ethnographic sources, and in the framework of the historic context and important research questions of the Project Area. Sites determined not</p>

eligible will receive no further treatment. A cultural resources evaluation report will be submitted to BLM for review, and for consultation purposes, as part of the development of the Treatment Plan.

AVOIDANCE

It is the policy of the BLM to avoid adverse effects to cultural resources to the extent possible. Avoidance of cultural resource sites is the preferred measure, and all impacts to eligible sites will be avoided to the greatest extent possible. As Proposed Project design plans are being finalized, the designated cultural resource specialist and BLM staff will review 1":400' or better scale orthotopo maps of Proposed Project impacts and provide an assessment of direct adverse effects to National Register eligible or unevaluated cultural resources. Recommendations for plan adjustments to avoid all eligible resources to the extent feasible will be made and Proposed Project design adjustments may be necessary.

Final design of the Proposed Project (for example, tower placement and work areas) will include measures to avoid National Register eligible sites where feasible. The final list of sites to be avoided during construction will be specified in the Treatment Plan. The Treatment Plan will also include detailed measures to ensure this avoidance is implemented during construction.

Prior to the start of earth disturbing activities or Proposed Project site preparation, DSW shall provide the designated cultural resources specialist and the BLM with final maps and/or drawings showing the area of potential effects of the Proposed Project and all linear facilities. Maps provided will include 1":400' or better scale orthotopo maps showing all Proposed Project impacts. If the footprint of the Proposed Project changes, DSW shall provide maps and drawings reflecting these changes to the cultural resources specialist and the BLM within five days. Maps shall show the location of all areas where surface disturbance may be associated with Proposed Project-related access roads, staging areas, and any other Proposed Project components.

TREATMENT PLAN

A Treatment Plan will be prepared for the project. Methods for mitigation of adverse effects and avoidance of impacts during construction will be clearly identified in the Treatment Plan, which will include a mitigation monitoring plan. A qualified archaeological monitoring team will be employed to ensure implementation of the mitigation monitoring plan. Monitors will have the authority to halt construction activities in the immediate construction area if these activities disturb a site that has been identified for avoidance. Sites within 50 feet of the impacted areas will be monitored to ensure impacts do not occur during construction. Specific measures may include flagging and staking and/or the placement of temporary fencing to ensure impacts do not occur during construction. These measures will be designed on a case-by-case basis and in a manner that does not draw attention to a specific site location. Specific procedures, the role of monitors, and the level of Native American participation will be identified in the mitigation monitoring plan portion of the Treatment Plan. The objective of the mitigation monitoring portion of the Treatment Plan is to ensure that cultural resources that are National Register eligible and can feasibly be avoided through planning are not adversely affected by the Proposed Project.

As part of the Treatment Plan for mitigation of unavoidable direct adverse effects to National Register eligible resources, the designated cultural resources specialist will prepare a research design and a scope of work for evaluation of cultural resources and data recovery or additional mitigation of National Register eligible sites that cannot be avoided. DSW shall submit the proposed research design and scope of work to BLM's archaeologist for review and consultation with SHPO and Native American groups as necessary and appropriate.

The proposed research design and scope of work shall include (but not be limited to):

- A discussion of the methods to be used to recover additional information and any needed analysis to be conducted on recovered materials;
- A discussion of the research questions that the materials may address or answer by the data recovered from the Proposed Project; and
- A discussion of possible results and findings.

The objective of mitigation through data recovery is to acquire substantive data relative to the research issues identified in the research design of the Treatment Plan. These data are intended to provide information important to history or prehistory relative to the characteristics that rendered the site eligible for inclusion in the National Register. Data recovery on most sites would consist of surface collection and sample excavation. Only on very small sites would complete excavation or collection be considered an appropriate treatment. Other forms of mitigation may also include the collection of oral histories, historical documentation, including architectural and engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation.

DSW shall ensure that the authorized cultural resources specialist performs the data recovery, preparation for analysis, preparation for curation, and delivery for curation of all cultural resource materials. DSW shall provide a copy of a curation agreement from a public repository that meets the requirements set out in 36 CFR 79 for the curation of cultural resources. In addition, DSW shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the Proposed Project are delivered to the repository following the approval of the Cultural Resources Report. The Proposed Project owner shall pay any fees for curation required by the repository. The BLM will retain ownership of artifacts collected from BLM managed lands.

DATA RECOVERY TO REDUCE ADVERSE EFFECTS

Planning for full-scale data recovery excavation to mitigate the loss of substantial and significant archaeological deposits will be based on the site's research potential beyond that realized during site recording and testing operations. The data gathered during the test investigation and the research design will guide the planning of full-scale excavation. The cultural resources specialist will consult with the BLM and DSW regarding excavations for mitigation. Data recovery methods, sample sizes, and procedures will be detailed in the Treatment Plan for SHPO review.

If data recovery is necessary, sampling for data recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area.

Designate a cultural resources specialist to be available to address discovered resources.

Because unanticipated discoveries may occur, the designated cultural resources specialist shall be available at all times to respond within 48 hours to adjustments in the Proposed Project. Addressing discovered resources may include additional testing and significance evaluation. If unanticipated discoveries are made, the archaeological monitor, or representative of DSW or BLM shall have the authority to temporarily halt or redirect construction activities. The designated cultural resource specialist shall be notified and DSW or DSW's representative shall halt construction in the immediate area in order to protect the discovery from further damage; Proposed Project construction may continue elsewhere on the Proposed Project. If such resources are found, the specialist shall contact the BLM's archaeologist as soon as possible.

If such resources are found and the BLM's archaeologist determines that they are or may be significant, the halting or redirection of construction shall remain in effect until:

- the specialist, DSW, and the BLM have conferred and determined what, if any, data recovery or other mitigation is needed;

<ul style="list-style-type: none"> • consultation with SHPO and/or Native American groups is completed as appropriate and necessary; and • any needed data recovery and mitigation has been completed. <p>If data recovery or other mitigation measures are required, the designated cultural resources specialist and team members shall monitor construction activities and implement the agreed upon data recovery and mitigation measures, as needed.</p>
<i>Consultation with Native American groups</i>
<p>Additional consultation with concerned Native American groups is recommended to determine if the archaeological sites have additional sensitivities as TCPs. The localities and sites identified thus far should not be considered exhaustive, and additional sites may also possess properties with special concerns. These include any habitation sites with the potential for human remains, sites with rock art, cultural landscapes, and certain trails. Quechan trails and ceremonial routes along the Colorado River and certain branches to the west are particularly sensitive.</p>
AIR QUALITY
<p><i>The following mitigation measures would be implemented during the construction of the Proposed Project to reduce the exhaust emissions of CO, NO_x, VOC, SO_x, and PM₁₀.</i></p> <ol style="list-style-type: none"> 1) Heavy duty off road diesel engines over 50 horsepower will meet Tier I ARB/EPA standards for off-road equipment and will be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations; 2) Construction vehicles will have 1996 and newer model engines; 3) Visible emissions from all heavy duty off road diesel equipment shall not exceed 20 percent opacity for more than three minutes in any hour of operation; 4) A comprehensive inventory (i.e. make, model, year, emission rating) of all heavy-duty off-road equipment (50 horsepower or greater) that will be used an aggregate of 40 hours per week or more during the duration of the construction project will be submitted to the Mojave Desert Air District. <p>Due to the remote locations, dry desert environment, and unique wildlife hazard issues specific to the project region, a combination of both water and chemical dust suppression would be utilized. Controlling dust in the desert is further complicated by the fact that water is an attractant to desert wildlife including the endangered Desert Tortoise. The use of petroleum and related products create potential soil and water pollution in sensitive desert environments.</p> <p>Water will be used for dust suppression when reasonably available and when water will not create wildlife hazard in construction zones. In cases where water is not feasible, chemical dust suppression methods, such as organic polymers or wood derivative compounds, will be implemented when dust suppression is warranted. These compounds will be applied as needed but are expected to require limited application.</p> <p>The following mitigation measures would be implemented for the Proposed Project to reduce emission fugitive dust (including PM₁₀):</p> <ol style="list-style-type: none"> 1) Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface. 2) Water or water-based chemical additives will be used in such quantities to control dust on areas with extensive traffic including unpaved access roads. Water, organic polymers, lignin compounds, or conifer resin compounds will be used depending on availability, cost, and soil

<p>type.</p> <ol style="list-style-type: none"> 3) Surfaces permanently disturbed by construction activities will be covered or treated with a dust suppressant within five days of the completion of activities at each site of disturbance. 4) Vehicle speeds on unpaved roadways will be restricted to 15 mph. 5) Vehicles hauling dirt will be covered with tarp or other means. 6) Site construction workers will be staged off-site at or near paved intersections and workers will be shuttled in crew vehicles to construction sites.
<p>WATER RESOURCES</p>
<p><i>A SWPPP would be prepared as required by the State Water Resources Control Board's General Construction Activity Storm Water Permit. The SWPPP shall include:</i></p>
<ol style="list-style-type: none"> 1) An outline of the areas of vegetative soil cover or native vegetation onsite that will remain undisturbed during the construction project. 2) An outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc. 3) An outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction. 4) A proposed schedule for the implementation of erosion control measures. <ol style="list-style-type: none"> (a) The SWPPP shall include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures. (b) The SWPPP shall include a description of the BMPs to reduce wind erosion at all times, with particular attention paid to stockpiled materials. <p>In addition, the SWPPP would include the following spill prevention and control measures:</p> <ol style="list-style-type: none"> (a) Minimize on-site use of hazardous materials and use materials with the lowest toxicity practicably available. (b) Refuel and maintain of vehicles and equipment only in designated areas that are either bermed or covered with concrete or asphalt to control potential spills. (c) Conduct refueling only with approved pumps, hoses, and nozzles. (d) Service and maintenance of vehicles and equipment will be conducted only by authorized personnel. (e) Place catch-pans under equipment to capture potential spills during servicing. (f) Place all disconnected hoses in containers to collect residual fuel from the hose. (g) Shut down vehicle engines during refueling. (h) No smoking, open flames or welding will be allowed in refueling or service areas. (i) Perform refueling away from bodies of water to prevent contamination of water in the event of a leak or spill. (j) When refueling is completed, the service truck will leave the project site. (k) Provide service trucks with fire extinguishers and spill containment equipment, such as absorbents. (l) Should a spill contaminate soil, place the soil in containers and dispose of as a hazardous waste.

(m) Inspect all containers used to store hazardous materials at least once per week for signs of leaking or failure. All maintenance and refueling areas will be inspected monthly. Results of inspection will be recorded in a logbook that will be maintained on-site.
<i>Wells and springs adjacent to construction areas could be disturbed or contaminated.</i>
<ol style="list-style-type: none"> 1) Surveys of the route will be conducted prior to construction to identify springs and their well depths, flow conditions, and hydrogeologic relationships within 1,000 feet of construction activities. This survey will also include assessing sensitive endemic species located near these wells and springs. Construction activities will be limited in the following manner: (1) construction activities will not be carried out within 100 feet of a well without using BMPs; (2) blasting will be prohibited within 500 feet of a well; and (3) only size limited blasting will be authorized within 1,000 feet of a well. If damage occurs to a well or spring, the affected area will be repaired by the contractor. 2) The use or storage of hazardous material near a well or spring will be prohibited. Additionally, special precautions will be implemented to prevent spills of hazardous materials, discharges of foreign materials, and sedimentation discharges near a well or spring. 3) Dewatering activities for tower footings or other deep excavations will be planned to minimize the effect on wells and springs.
GEOLOGY AND SOILS
<i>Seismic activity in the project area could cause damage to Proposed Project facilities.</i>
<ol style="list-style-type: none"> 1) To reduce the hazards of damage from ground rupture, all practicable measures will be taken to avoid sites for transmission towers that are located within known fault zones. Fault zones with a record of historic or Holocene (within the last 10,000 years) fault displacement will be considered capable fault zones. A geotechnical engineering investigation consistent with California geologic and engineering standards will be conducted for the Proposed Project by a licensed geotechnical engineer. The geotechnical engineer will prepare a report that summarizes the results of a field investigation, including site inspection and soil testing, potential geologic hazards (including fault rupture and severe secondary effects of earthquakes), and design criteria and construction methods to effectively construct the Proposed Project with an acceptable level of risk. The report will address all geologic and geotechnical factors related to the design and construction of the Proposed Project. The geotechnical engineering investigation will delineate areas of active and potentially active faults. To the extent possible, it will identify fault traces and locate them in the field so faults can be avoided during tower siting. A more detailed geologic investigation may be necessary in some active and potentially active fault areas if the trace is not sufficiently defined by surface geologic features. 2) All practicable precautions will be taken to design and construction of transmission towers and new substations, substation facility improvements, and equipment to withstand the projected ground shaking associated with the MPE in the area. This includes secondary hazards induced by earthquakes (liquefaction, lurching, lateral spreading, rapid differential settlement, induced landslides, and rock-fall avalanche). The MPE represents the strongest earthquake likely to occur over the design life of the Proposed Project. The geotechnical engineering investigation will provide regional seismic criteria for the design of the Proposed Project facilities including transmission components, new access roads, and substation additions. To minimize potential damage from ground shaking and secondary earthquake effects, transmission line structures will be designed using project-specific criteria in accordance with the latest revision of the NESC. New substation and substation facilities improvements will meet the appropriate design criteria contained in the most current applicable edition of the UBC.

<p>CONSTRUCTION, OPERATION, AND MAINTENANCE ACTIVITIES WILL BE RESTRICTED WHEN THE SOIL IS TOO WET TO ADEQUATELY SUPPORT CONSTRUCTION OR MAINTENANCE EQUIPMENT (I.E., WHEN HEAVY EQUIPMENT CREATES RUTS IN EXCESS OF 4 INCHES DEEP OVER A DISTANCE OF 100 FEET OR MORE IN WET OR SATURATED SOILS). THIS STANDARD WILL NOT APPLY IN AREAS WITH SILTY SOILS, WHICH EASILY FORM DEPRESSIONS EVEN IN DRY WEATHER. WHERE THE SOIL IS DEEMED TOO WET, ONE OR MORE OF THE FOLLOWING MEASURES WILL APPLY:</p>
<ol style="list-style-type: none"> 1) When feasible, reroute all construction or maintenance activities around the wet areas while ensuring that the route does not cross sensitive resource areas. 2) If wet areas cannot be avoided, implement BMPs for use in these areas during construction and improvement of access roads, and their subsequent reclamation. This includes use of wide-track or balloon-tire vehicles and equipment, or other weight dispersing systems approved by the appropriate resource agencies. It also may include use of geotextile cushions, pre-fabricated equipment pads, and other materials to minimize damage to the substrate where determined necessary by resource specialists. If BMPs cannot be successfully applied to wet or saturated soil areas, construction or routine maintenance activities would not be allowed in these areas until the Project environmental monitor(s) determine it is acceptable to proceed. 3) Limit access of construction equipment to the minimum amount feasible, remove and separate topsoil in wet or saturated areas, and stabilize subsurface soils by grading dewater problem areas, utilizing weight dispersion mats, and/or maintaining erosion control measures such as surface drilling and back-dragging. After construction is complete, regrade and recontour the area, replace topsoil, and reseed to achieve the required plant densities.
<p><i>Proposed Project activities on coarse to very coarse textured soils, alkaline/saline soils, or soils with shallow depth to bedrock could delay or reduce reclamation success.</i></p>
<ol style="list-style-type: none"> 1) Vegetation removal and soil disturbances (including temporary road improvements) will be minimized in areas where soil constraints occur. Where vegetation removal is required, mowing or cutting will be the primary method utilized. Plants will generally be cut at a height that results in the least damage to the root crown during cutting or subsequent damage by vehicles and equipment. Blading will be restricted except when required for safe equipment operation (e.g., crane operation on a side hill). Previously located environmental constraint areas will be delineated in the field by a qualified resource specialist prior to construction and included in the COM Plan. These environmental constraint areas will then be avoided by construction activities, or mitigation would be applied consistent with measures described in this POD.
<p><i>Shrink and swell actions of expansive soils could damage equipment foundations.</i></p>
<ol style="list-style-type: none"> 1) Prior to construction, soils will be evaluated to determine if they are expansive and if they may have potential effects on the proposed facilities. Where they represent a potential hazard, solutions recommended by the Proposed Project's geotechnical engineer, such as excavation and replacement of the expansive soils with compacted backfill, will be required. If imported backfill material is used, it will be certified to be free of noxious weeds and propagates (i.e., seeds and root fragments).
<p><i>Short-term erosion and sedimentation will be reduced and topography and vegetation will be quickly restored as practicable to pre-construction conditions in all areas required and approved by BLM and private landowners.</i></p>
<p>A qualified resource specialist will monitor implementation during construction and operations, until successful revegetation is achieved. Monitoring of the erosion control measures will continue until reclamation efforts were considered complete and successful. Measures to be implemented during the Proposed Project construction and reclamation are listed below.</p>
<p>Implementation of the following environmental protection practices will minimize the effects of</p>

grading, excavation, and other surface disturbances in all project areas. Schedules and specifications on the use of these features would be included in the COM Plan.

- 1) Confine all vehicular traffic associated with construction to designated right-of-ways, material yards, wire set-up sites, and access roads designated in the COM Plan.
- 2) Limit disturbance/removal of soils and vegetation to the minimum area necessary for access and construction.
- 3) Where vegetation removal is necessary, use cutting/mowing methods instead of blading, wherever possible.
- 4) Adhere to a construction methodology that mitigates impacts to less than significant levels in sensitive areas during severe weather events.
- 5) Inform all construction personnel before they are allowed to work on the Proposed Project of environmental concerns, pertinent laws and regulations, and elements of the erosion control plan. This could be presented in a multi-hour environmental training for project management and general foremen, and a short (one hour or less) environmental training class for construction personnel.
- 6) Minimize grading to the extent possible. When required, grading will be conducted away from watercourses/washes to reduce the potential of material entering the watercourse.
- 7) Slope and berm graded material, where possible, to reduce surface water flows across the graded area.
- 8) Replace excavated materials in disturbed areas and minimize the time between excavation and backfilling.
- 9) Direct the dewatering of excavations onto stable surfaces to avoid soil erosion.
- 10) Use detention basins, certified weed-free straw bales, or silt fences, where appropriate.
- 11) Use drainage control structures, where necessary, to direct surface drainage away from disturbance areas and to minimize runoff and sediment deposition downslope from all disturbed areas. These structures include culverts, ditches, water bars (berms and cross ditches), and sediment traps.
- 12) Implement other applicable BMPs to minimize erosion-related impacts during construction and improvement of access roads, and their subsequent reclamation.
- 13) Re-establish native and, if necessary, non-persistent, non-invasive, non-native vegetation cover in highly erodible areas as quickly as possible following construction.

In areas of highly erodible soils, non-standard construction equipment and techniques that minimize surface disturbance, soil compaction, and loss of topsoil will be used, such as vehicles with low ground pressure tires. Vegetation clearing will be minimized. Temporary erosion control measures, in accordance with the COM Plan, will be in place before construction is allowed to proceed in potential soil erosion areas (e.g., steep slope areas). Erodible slopes that do not require grading will be cleared using equipment that results in little to no soil disturbance.

VISUAL RESOURCES

Mitigation Measure for Construction Impacts.

<ol style="list-style-type: none"> 1) After Project construction is complete, ground surfaces within the transmission line right-of-way and areas outside the right-of-way that are disturbed during project construction would be restored to their original condition and grade, as outlined in the Reclamation Plan. 2) Staging areas would be revegetated as necessary, pursuant to the Reclamation Plan. 3) Existing rock formations and vegetation would be retained whenever possible. 4) Construct access roads and the spur roads at appropriate angles from the originating primary travel route to minimize extended, in-line views of newly graded terrain. This mitigation is dependent upon the ability to safely construct, maintain, and utilize the road/route.
TRAFFIC AND TRANSPORTATION
<ol style="list-style-type: none"> 1) Traffic controls could include ensuring that the locations of newly constructed access road intersections with public roadways are highly visible and placing signage and traffic control crews at select locations to ensure that motorists are aware of the presence of crossing or slow-moving construction vehicles.
<i>Construction activities could result in damage to local roadways.</i>
<ol style="list-style-type: none"> 1) Following construction, or during construction as necessary to maintain safe driving conditions, any damage to existing roadways caused by construction vehicles would be repaired.
PUBLIC HEALTH AND SAFETY
<p><i>Detailed information about the use, storage and disposal of hazardous materials would be provided in the Health and Safety Plan that would be developed by the construction contractor. This Plan would define specific procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and disposal of hazardous wastes. For example, construction vehicles and equipment would be required to be serviced and fueled at least 100 feet from sensitive areas.</i></p> <p><i>DSW would be required to maintain MSDS and U.S. DOT Emergency Response Guidebook at material yards, construction sites, substations, and in construction and maintenance crew vehicles. DSW would also be required to complete an SF 299 Section 19 Hazardous Materials List. These plans, along with the U.S. DOT Emergency Response Guidebook, would adequately control the use, production, transportation, and storage of hazardous materials along the transmission line corridor, access roads, material yards, and substations.</i></p> <p><i>DSW would implement a Fire Prevention and Response Plan (FPRP) during construction, operation, and maintenance of the proposed transmission line. A detailed plan would be prepared as part of the COM Plan. A preliminary outline of the FPRP was provided as part of the Final EIS/EIR, and includes some of the basic practices and techniques that would be included in the final FPRP, and used to minimize fire hazards associated with the Proposed Project.</i></p>

6.2 PRE-CONSTRUCTION ENVIRONMENTAL RESOURCE SURVEYS

As identified in the mitigation commitments outlined above, surveys for biological and cultural resources would be conducted prior to the start of construction.

Class III pedestrian surveys for cultural resources will be completed for the portions of the segment located on BLM land in consultation with the BLM. Consultation is on-going and a treatment plan is being developed and implemented in consultation, as appropriate, with the BLM, California State Historic Preservation Office (SHPO), and

interested tribes. Recommended measures will include avoidance, spanning, and site testing and excavation; other possible mitigation techniques include adjusting structure site spacing or pull site location.

Pre-construction surveys will be conducted for the biological habitats and species mentioned in the table above such as WUS, desert tortoise, and other species. The details of these surveys would be coordinated with the BLM and USFWS. Qualified biologists will conduct these site surveys. If special status species are encountered during the pre-construction surveys or during construction, appropriate mitigation measures will be implemented at that time to minimize any anticipated impact.

6.3 CONSTRUCTION CREW TRAINING

All sensitive resources that are identified will be flagged in the field to ensure awareness and appropriate treatment during construction.

Prior to construction, all construction personnel will be instructed on the protection of cultural, paleontological, sensitive ecological resources, and other sensitive areas. To assist in this effort, the construction contract will address (a) federal and state laws regarding antiquities, fossils, plants and wildlife, including collection and removal; and (b) the importance of these resources and the purpose and necessity of protecting them.

7.0 STABILIZATION AND REHABILITATION

7.1 TRANSMISSION LINE RECLAMATION

Reclamation activities will be conducted on disturbed construction areas including structure pad locations, spur roads, and stringing/tensioning sites. The following prescriptions would be implemented after final construction activities have been completed.

- Any new road construction and active construction areas would be graded in such a manner that no new berms would be created from the soil spoils discarded from the blading equipment.
- To the maximum extent possible, all shrubs and cacti within non-graded impact areas would be identified and flagged prior to initiation of construction for protection against trampling or removal. In all other areas, only the crushing of vegetation would be permitted unless grading is absolutely necessary.
- If soil is to be excavated or graded, the A horizon and portions of the B horizon (approximately the top 4 to 8 inches) would be salvaged and stockpiled separate from subsoil layers. This action would not be applied to any spur road construction. Subsurface soils, if excavated, would be stockpiled separately and both identified and protected from loss during the construction phase of the project.
- Subsurface soils, if excavated, would be used as initial fill for disturbed sites. Following this, salvaged topsoil would be spread on the disturbed area and raked with a narrow-toothed spike or similar equipment to create imprinting or micro-catchment depressions for water retention and seed collection. No mulch would be applied in order to eliminate any barriers to seed deposition from wind dispersal and possible introduction of alien and noxious plant species.
- Whenever possible, suitable cacti and shrubs would be salvaged and replanted at the end of construction.
- Following construction, disturbed areas would be restored to the original pre-construction topographic contours.
- Where hydrologic features and/or banks are disturbed, the original surface channel hydrologic features would be recontoured to approximate pre-construction contours and bank slope margins would be backfilled.
- Compacted soils in construction areas would be ripped to a depth of 4 to 8 inches by a chisel, plow, disc, or other type of equipment to improve moisture permeability between the soil/spoil interface.
- No new seed would be broadcast or planted. A sufficient seed bank exists in the first several inches of soil to revegetate a disturbed desert site.

- Seed capture and propagation would be encouraged by mechanical pitting and imprinting.
- Where necessary (e.g., unstable soils, steep slopes), erosion control measures, including contouring, would be used to prevent erosion and sedimentation until vegetation becomes established.
- If vegetation has been cleared from a construction area, it would be respread within the reclaimed area to increase soil moisture and provide a catchment for wind dispersed seeds.

7.2 NOXIOUS WEED SPECIES

The control of noxious weed species can be achieved through proper revegetation using appropriate management practices during transmission line construction as well as reclamation of the disturbed areas. Measures associated with limiting the impact of noxious weed species are provided as follows:

- Construction supervisors and managers would be educated on weed identification and the importance of controlling and preventing the spread of noxious weed species infestations.
- Disturbed construction areas would be reclaimed as soon as possible after construction in the area is completed.
- Before beginning reclamation activities, previously identified noxious weed infestations would be controlled through acceptable mechanical (e.g., topsoil excavation and removal), cultural, or herbicide applications.
- Clearing and grading equipment would have the tires, axels, frame, running boards, under carriages, and soil holding areas washed and cleaned to prevent noxious weed species transport to unaffected areas.

7.2.1 NOXIOUS WEED MONITORING PLAN

Monitoring of noxious weed populations would be conducted annually until the weed abatement success criteria have been met. Noxious weed surveys would be conducted less frequently (e.g., every 3 years) if survey results indicate weed abatement criteria have been met. The monitoring would be conducted during the growing season for most weeds, generally between late March and mid-May. Lists of noxious weeds would be obtained from the BLM Field Office and/or the California Department of Food and Agriculture - Noxious Weed Species list.

Surveys would be conducted in areas disturbed during construction on foot and/or by vehicle within the construction corridor, along spur roads and stringing and tensioning sites. Species names and locations of noxious weed infestations would be mapped (e.g., on USGS 7.5-minute quadrangle maps, or aerial photographs, and/or using a GPS) and

transferred to an updateable GIS database. Photographs would be taken of treated populations prior to treatments and one year following treatments. Infestations would be included on the maps at the following levels:

- Satellite Populations – Defined as very small infestation areas (less than 25 square feet), which have only a few individual plants and are found apart from dense or large weed populations.
- Infestation Sites – Defined as a site in which a minimum of 25 square feet is populated by a weed species. Densities of these weed populations would be estimated as high (>50 plants), medium (10-50 plants), or low (<10 plants), based on the average number of plants per 25 square feet (densities can be defined differently for different weed species, as appropriate).

Noxious weed management would be considered successful if existing noxious weed infestations in areas disturbed by construction were no greater in density and extent one year following construction than they were surveyed prior to construction.

7.3 RESTORATION SUCCESS CRITERIA AND POST-CONSTRUCTION MONITORING

Restoration success criteria are defined as factors to evaluate the success of the post-construction reclamation, control the spread of noxious weeds, and effectiveness of erosion control measures.

Post-construction monitoring would continue following reclamation until success criteria were met. If post-construction monitoring results indicate that project-affected sites were trending toward successfully meeting soil and noxious weeds criteria, monitoring may be conducted less frequently (e.g., every three years) subsequently, until success criteria were met.

7.4 RESTORATION OF TEMPORARY DISTURBANCE AREAS

Reclamation success would be evaluated by comparing project-affected sites with pre-construction conditions and/or adjacent areas in terms of final grading and removal of berms, recontouring to approximate pre-construction contours, removal of noxious weed species, and relief of all compacted soils. The reclamation of sites would be considered successful if they are within a specified percentage of the mean native species composition and vegetation cover of the reference site(s). The reference sites would be either the project-affected site as recorded during pre-construction conditions (if known) or representative areas which have the same target plant community adjacent to the affected site.

7.5 EROSION CONTROL

The effectiveness of erosion control measures would be evaluated by noting particular site conditions, including soil movement and downslope sedimentation, surface vegetative detritus (litter) movement, flow pattern development, rills and gullies, wind-scour depressions, and plant root system exposure.

If the conditions listed are present, it would be assumed that project-related erosion is occurring, and options for remedial measures would be evaluated and implemented as needed. Erosion control measures would be considered successful when no project-related erosion is evident five years following project implementation.

8.0 OPERATION AND MAINTENANCE

This section outlines those procedures that will be employed during the operation and maintenance phase of the Project after construction and restoration have been completed.

8.1 SAFETY

Safety is a primary concern in the design of the proposed transmission line and related facilities. The transmission line will be protected with power circuit breakers and related line relay protection equipment. Lightning protection will be provided by overhead ground wires (shield wires or OPGW) along the line. Electrical equipment and fencing at the substation will be grounded. All existing fences, metal gates, pipelines, etc. that cross or are within the transmission line right-of-way will be grounded to prevent electrical shock.

8.2 INSPECTION AND MAINTENANCE SCHEDULE AND LEVEL OF USE

DSW will periodically patrol the Project ROW to inspect its condition and identify problem areas so that maintenance crews may be scheduled to correct any problems. Ground and aerial inspections will be performed on average once per year, or as needed to detect facilities needing repair or replacement.

Normal maintenance or repairs by DSW to repair or replace conductor or insulator components will not require notification of the BLM unless new ground disturbance is required. Access for this routine repair work will be confined to roads and access designated for this purpose, as shown on the large scale maps at the end of this POD.

In emergencies arising from fire, flood, storms, vandalism or other factors causing or requiring an outage, repair work is required as soon as the damage is detected. Emergency maintenance involves the prompt movement of crew to repair damage and replace equipment. Crews will be instructed, in accordance with specific maintenance plans and procedures, to protect crops, vegetation, wildlife, and other resources of significance. Specific training will be provided to all maintenance crews instructing them on plan and procedure policy requirements. Restoration procedures following completion of repair work will be similar to those prescribed for original construction.

In case of emergencies requiring surface disturbance and overland travel outside approved roads, DSW will notify the BLM immediately by phone. Information provided will include the location of the outage, extent of damage, and equipment required for repairs.

Substation maintenance activities will include routine scheduled equipment maintenance, groundskeeping, and emergency maintenance in the event of equipment failure. Substation maintenance will be performed by project personnel or approved contractors.

8.3 FIRE CONTROL

All applicable fire laws and regulations will be observed during the operation and maintenance period. All personnel would be advised of their responsibilities under the applicable fire laws and regulations, including taking practical measures to report and suppress fires.

BLM fire safety standards will be followed. Requirements for fire tool availability, spark arresters/mufflers on equipment, and coordination of extreme fire conditions with BLM representatives will be coordinated. When extreme fire conditions occur, BLM representatives will be contacted and access will be restricted. Refueling of equipment and helicopter staging areas will be at nearby airports or staging areas on private property.

8.4 NOXIOUS WEED CONTROL

During annual inspections, noxious weeds will be monitored for presence, distribution, and density. Surveys will be conducted as early in the year as feasible to control noxious weeds before they produce seed. Control methods will be based on the best available technology and the weed species present. Methods used to control weeds may include mowing or hand-pulling or, in extreme cases of noxious weed infestation, application of an appropriate herbicide.

8.5 LONG TERM ACCESS

Long-term access to the ROW after construction will be provided by the same access roads used during construction. The locations of these routes are shown on the large scale maps included at the end of this POD.

9.0 TERMINATION AND RESTORATION

This section outlines the measures that will be taken at such time in the future when the ROW has expired and the Project is terminated. At this time, these actions are anticipated to include:

- Removal of structures
- Obliteration of roads, tower pads, etc.
- Stabilization and re-vegetation of disturbed areas

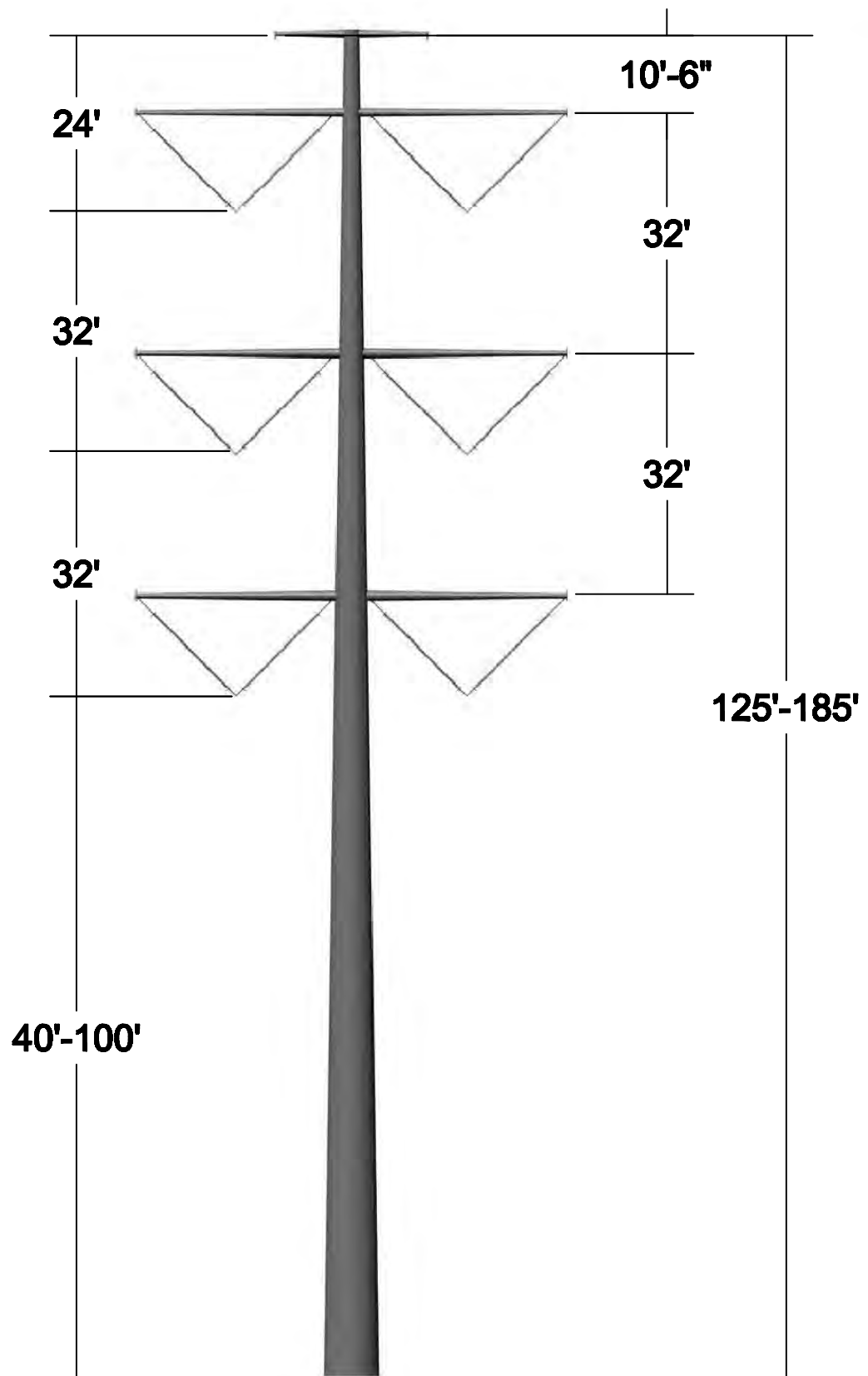
Structures will be removed and structure sites will be cleared and graded only to the extent necessary. Clearing activities to reestablish or improve access will be performed in a manner agreed to by the BLM. Restoration activities will be similar to those described for post-construction.

In construction areas (e.g., structure sites, pull sites, access roads) where ground disturbance is significant or where recontouring is required, surface restoration shall occur as required by the BLM. The method of restoration will typically consist of returning disturbed areas to their natural contour (to the extent practical), installing cross drains for erosion control, placing water bars in the road, and filling ditches, using straw bales and sediment traps.

In general, all construction and subsequent maintenance activities shall be conducted in a manner that will minimize disturbance to soil and vegetation. In addition, all previously existing roads shall be left in a condition equal to or better than their condition prior to construction of the transmission lines.

All such measures will remain in place at the conclusion of reclamation until such time that they can be removed at the agreement of BLM and DSW. These temporary and permanent erosion control measures could include: sediment barriers, waterbars, erosion control, and mulching.

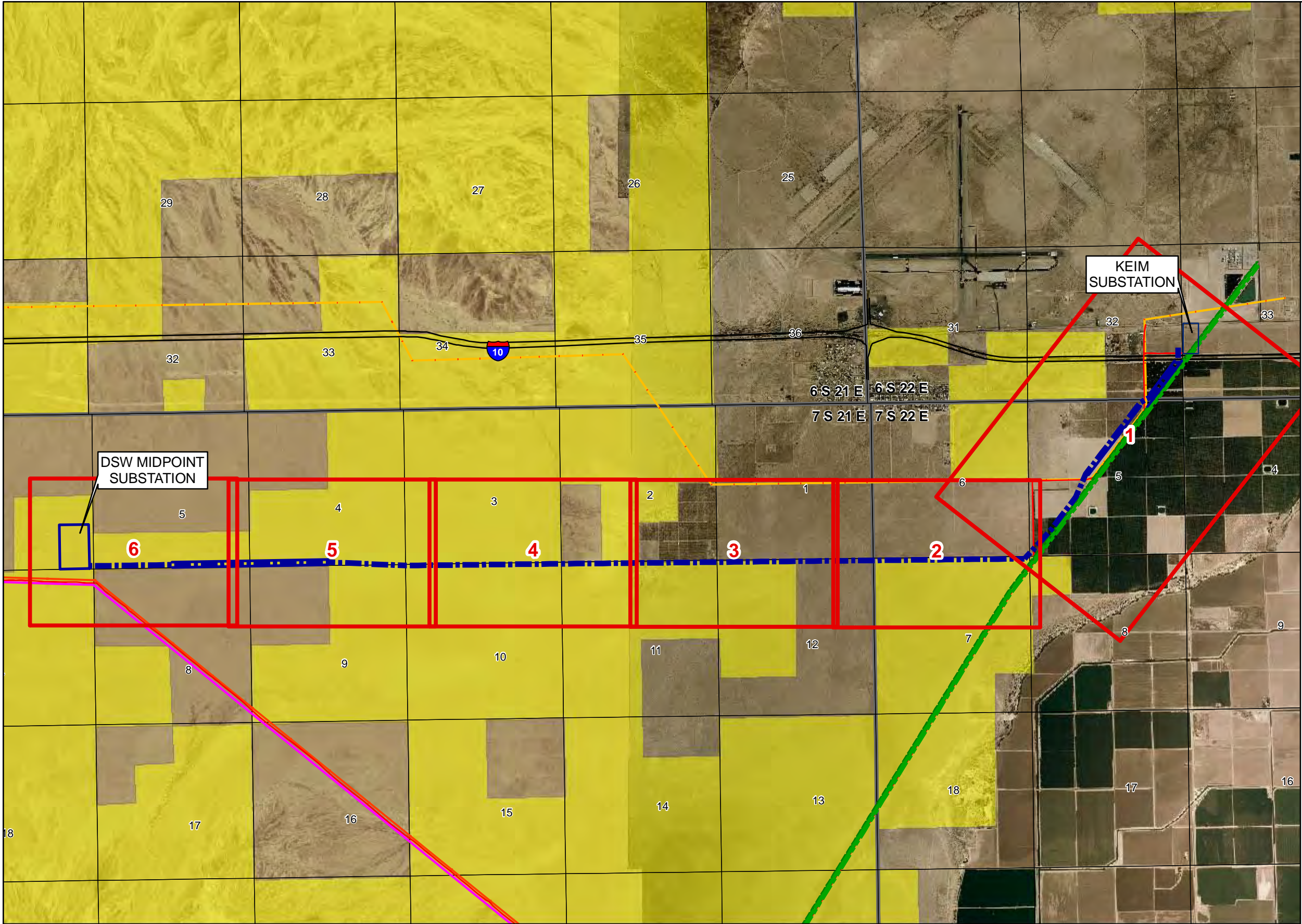
Access roads or trails identified by the BLM will be blocked or fenced, if requested, to prevent future access by the public. Fences, gates, and cattleguards will be replaced if damaged or removed during termination and restoration.



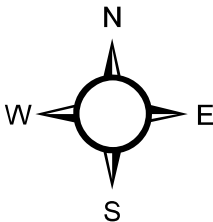
500-kV Double Circuit
Tubular Steel Pole

DESERT SOUTHWEST
TRANSMISSION PROJECT

FIGURE 2



- Legend**
- BLYTHE TRANSMISSION LINE
 - SCE PVD-1 TRANSMISSION LINE
 - SCE EAGLE MOUNTAIN TRANSMISSION LINE
 - IID-WAPA TRANSMISSION LINE
 - SCE PVD-2 TRANSMISSION LINE
 - PROPOSED DSWTP LINE
 - BLM LAND
 - SHEET EXTENT



0 0.9 1.8
Miles

FIGURE 3

**Desert Southwest
Transmission Project
BLM Plan of Development**

**KEIM SWITCHING STATION TO
DSW MIDPOINT SUBSTATION**

Project Sheet Key



Legend

- PVD-1 STRUCTURE (EXISTING)
- IID-WAPA STRUCTURE
- PVD-2 STRUCTURE (FUTURE)
- DSWTP STRUCTURE (FUTURE)
- BLYTHE TRANSMISSION LINE
- SCE PVD-1 TRANSMISSION LINE
- SCE EAGLE MOUNTAIN TRANSMISSION LINE
- IID-WAPA TRANSMISSION LINE
- SCE PVD-2 TRANSMISSION LINE
- PRIVATE PARCEL
- USA PARCEL
- PVD-1 RIGHT OF WAY
- PROPOSED DSWTP LINE
- PROPOSED 12'WIDE BTL STUB ROAD
- PROPOSED CONSTRUCTION AREAS
- PROPOSED ACCESS ROAD
- EXISTING 16' WIDE DIRT ROAD
- BLM LAND

N
W
E
S

0 600 1,200
Feet

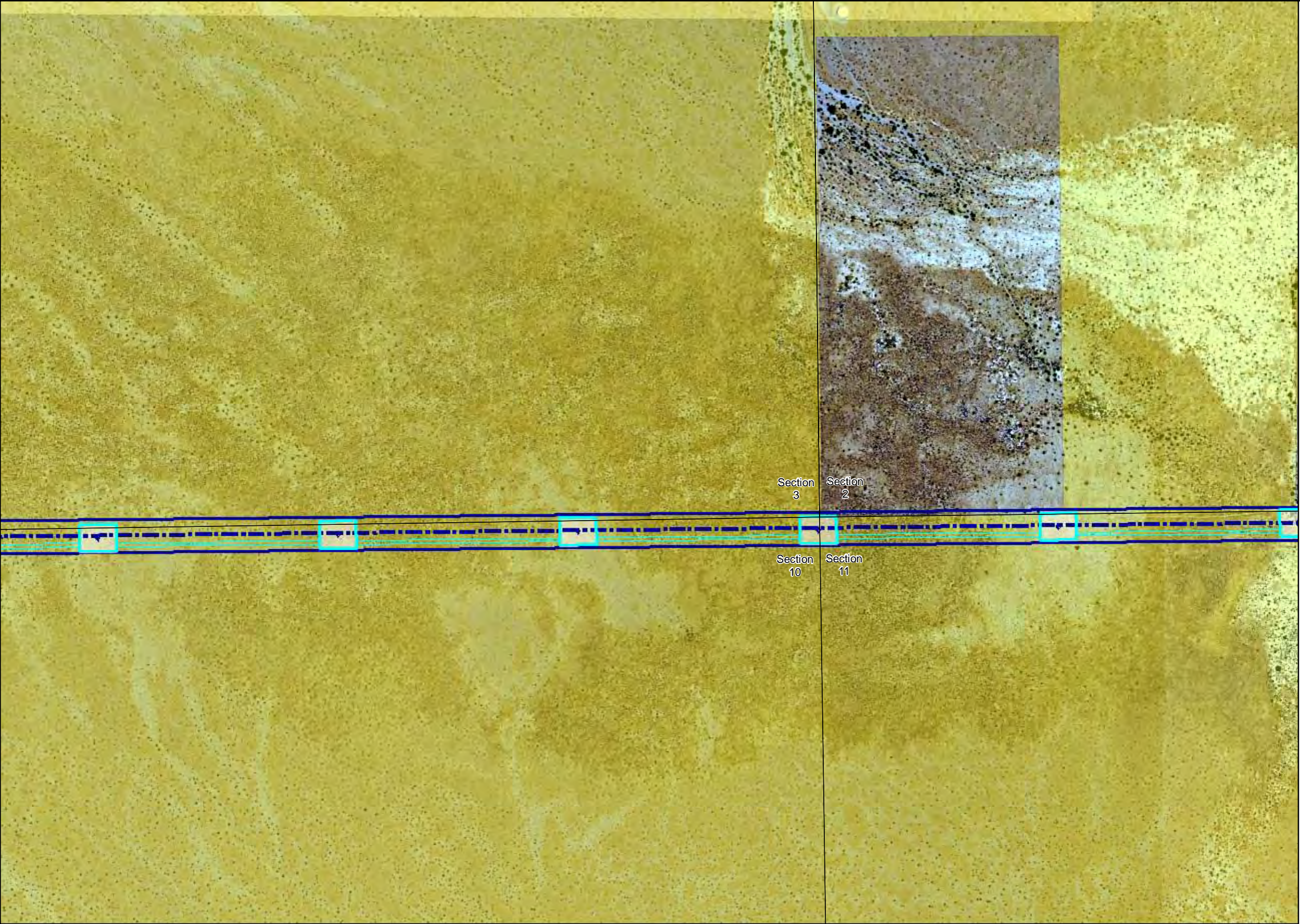
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Miles

**Desert Southwest
Transmission Project
BLM Plan of Development**

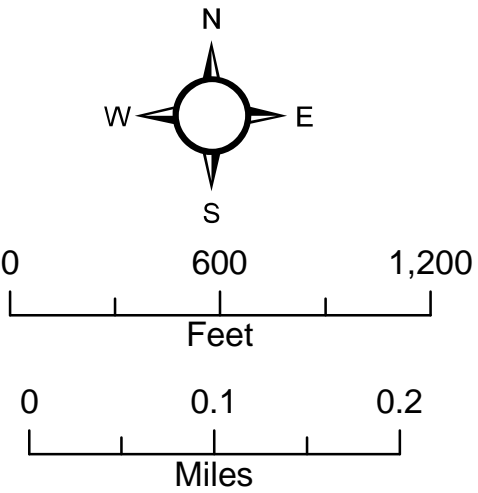
**KEIM SWITCHING STATION TO
DSW MIDPOINT SUBSTATION**

Sheet 2

E:\Desert_Southwest_POD\SHEET2



- Legend
- PVD-1 STRUCTURE (EXISTING)
- IID-WAPA STRUCTURE
- PVD-2 STRUCTURE (FUTURE)
- DSWTP STRUCTURE (FUTURE)
- BLYTHE TRANSMISSION LINE
- SCE PVD-1 TRANSMISSION LINE
- SCE EAGLE MOUNTAIN TRANSMISSION LINE
- IID-WAPA TRANSMISSION LINE
- SCE PVD-2 TRANSMISSION LINE
- PRIVATE PARCEL
- USA PARCEL
- PVD-1 RIGHT OF WAY
- PROPOSED DSWTP LINE
- PROPOSED 12'WIDE BTL STUB ROAD
- PROPOSED CONSTRUCTION AREAS
- PROPOSED ACCESS ROAD
- EXISTING 16' WIDE DIRT ROAD
- BLM LAND

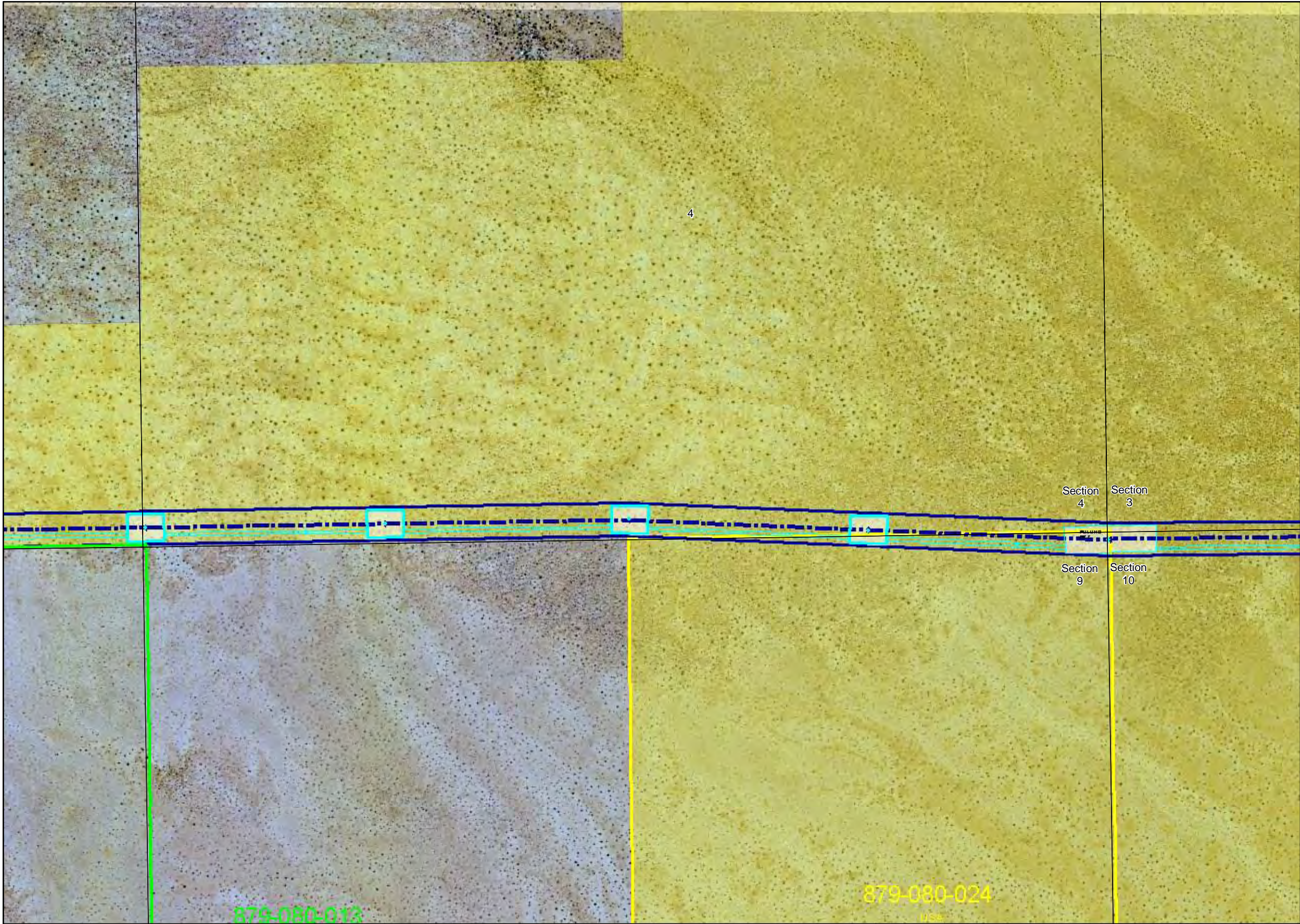


Desert Southwest
Transmission Project
BLM Plan of Development

KEIM SWITCHING STATION TO
DSW MIDPOINT SUBSTATION

Sheet 4

E:\Desert_Southwest_POD\SHEET4



Legend

PVD-1 STRUCTURE (EXISTING)

IID-WAPA STRUCTURE

PVD-2 STRUCTURE (FUTURE)

DSWTP STRUCTURE (FUTURE)

BLYTHE TRANSMISSION LINE

SCE PVD-1 TRANSMISSION LINE

SCE EAGLE MOUNTAIN TRANSMISSION LINE

IID-WAPA TRANSMISSION LINE

SCE PVD-2 TRANSMISSION LINE

xxx

PRIVATE PARCEL

USA PARCEL

PVD-1 RIGHT OF WAY

PROPOSED DSWTP LINE

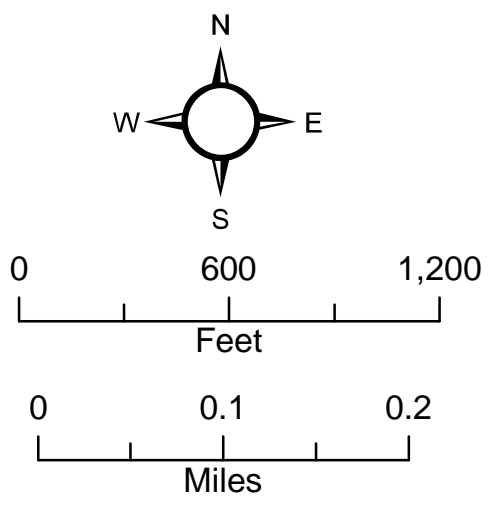
PROPOSED 12'WIDE BTL STUB ROAD

PROPOSED CONSTRUCTION AREAS

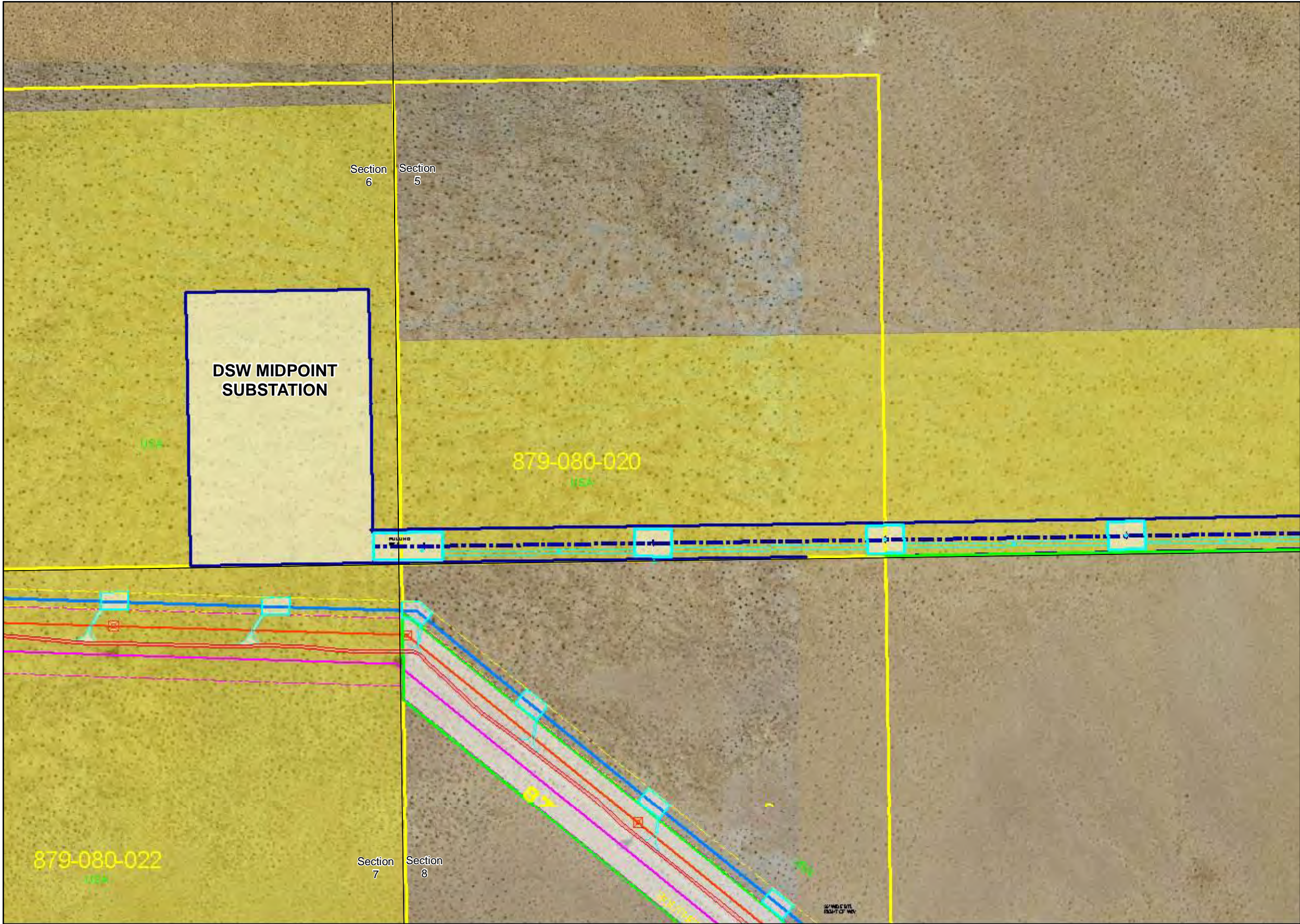
PROPOSED ACCESS ROAD

EXISTING 16' WIDE DIRT ROAD

BLM LAND



Desert Southwest Transmission Project BLM Plan of Development
KEIM SWITCHING STATION TO DSW MIDPOINT SUBSTATION
Sheet 5
E:\Desert_Southwest_POD\SHEET5



- Legend**
- PVD-1 STRUCTURE (EXISTING)
 - IID-WAPA STRUCTURE
 - PVD-2 STRUCTURE (FUTURE)
 - DSWTP STRUCTURE (FUTURE)
 - BLYTHE TRANSMISSION LINE
 - SCE PVD-1 TRANSMISSION LINE
 - SCE EAGLE MOUNTAIN TRANSMISSION LINE
 - IID-WAPA TRANSMISSION LINE
 - SCE PVD-2 TRANSMISSION LINE
 - PRIVATE PARCEL
 - USA PARCEL
 - PVD-1 RIGHT OF WAY
 - PROPOSED DSWTP LINE
 - PROPOSED 12'WIDE BTL STUB ROAD
 - PROPOSED CONSTRUCTION AREAS
 - PROPOSED ACCESS ROAD
 - EXISTING 16' WIDE DIRT ROAD
 - BLM LAND

